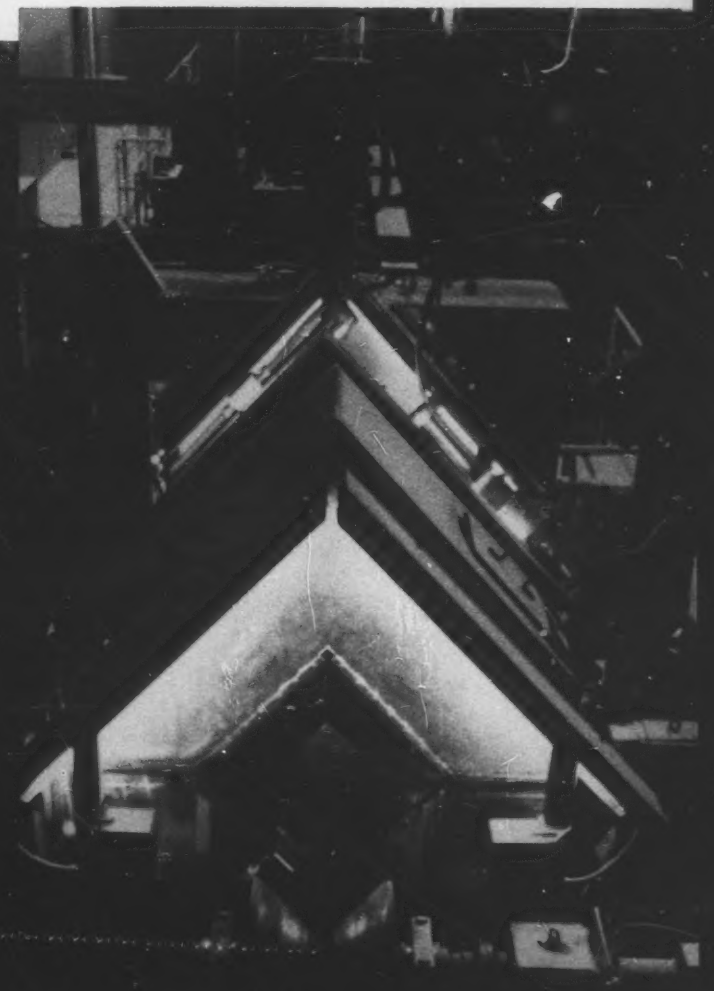
C3400-7

IRON AGE
METALS PRODUCER
JUNE 1987

# STEEL TAKES A HARD LOOK AT SURFACE INSPECTION



TUSCALOOSA STEEL—
IN THE RIGHT PLACE AT THE RIGHT TIME

3
S R I
CONGRESSIONAL INFO SERV.
4520 E. W. HWY. STE
BETHESDA MD 20814

208
849
131
**********3-DIGIT
849

IRON AGE
METALS PRODUCER

# CONTENTS

JUNE 1987, Vol. 3, No. 6

**Surface Inspection: Electronics are opening the way for the steel industry to make dramatic gains in inspection technology.**

**Special Feature-P.17**

Billet surfaces are inspected at Timken's Faircrest plant.

EDITORIAL

**P.3—Who's Wearing The Black Hats Around Here?**

NEWSWATCH

**P.7—Wheeling-Pittsburgh**
A new chief executive takes over at the financially troubled steelmaker.

ORDER TRENDS

**P.13—Defense Orders**
Military outlays pushed the overall orders total up sharply in March.

INSPECTION

**P.17—Inspection Equipment**
Though the industry is awash in new inspection technology, there's little money to spend on this equipment.

ROLLING MILLS

**P.23—Tuscaloosa Steel**
The new plate mill was up and rolling in time to catch this year's rebound in the plate market.

EARNINGS

**P.29—First Quarter Profits**
The major steel producers posted profits in the first quarter, but much of the money came from a government refund for unused investment credits.

FURNACES

**P.34—Klockner-CRA**
With two new processes ready for the hot end of the mill, it continues its emphasis on efficient heat transfer.

CONTINUOUS CASTING

**P.36—Natco**
The company has opened a new facility as a step in its plan to become the leader in mold powder technology.

SHEET STEEL

**P.38—Inland Steel**
The Midwest steelmaker is joining forces with Nippon Steel to build a continuous cold processing system.

STEEL BY GEORGE

**P.40—Restructuring**
By joining forces, steel companies are able to modernize without creating surplus capacity.

MATERIALS REPORT

**P.45—Steel Summary**
Steel producers are revising their market estimates for 1987 upward.

DEPARTMENTS

P.4—Editorial Staff
P.4—Letters
P.41—Product Review
P.44—Free Literature
P.46—P&P Data
P.47—Ferrous Scrap
P.48—Ad Index
P.48—Business Staff
P.49—Reader Service Card

NEXT ISSUE:

**Continuous Strip Casting**

Iron Age Metals Producer (UPS 269-780) is published monthly by Fairchild Publications, 7 East 12th St., New York, N.Y. 10003. Fairchild Publications is a division of Capital Cities Media, Inc., New York, N.Y. Second Class Postage Paid at New York, N.Y. and additional mailing offices. Iron Age Metals Producer is sent on a controlled free basis to qualified managers in the primary metals industry. All others: $30 one year (U.S.), $56 one year (Canada/Foreign). Single copies, $3.00. Send address changes to Iron Age Metals Producer, P.O. Box 3026, Wheaton, IL, 60189.

# DEFENSE ORDERS LAUNCH A NEW OFFENSIVE

Defense orders continue to set the pace for the nation durable goods manufacturers.

In March, according to the U.S. Commerce Department, orders for durable goods rose $3.8 billion, or 3.7 pct, to $105.8 billion. That total was the largest figure for one month since the record $106 billion in orders last December.

Much of the gain can be attributed to new orders for defense capital goods. Commerce officials noted that military orders were up 39 pct to $9.7 billion, while orders for nondefense capital goods rose 1.7 pct to $27.3 billion in March.

Excluding the defense outlays, overall durable goods orders were up 1.2 pct for the month, they said.

Within the major industry categories, transportation equipment posted the largest month-to-month gain. Here again, Commerce officials reported, much of the impetus was the increase in military spending for aircraft and parts and for shipbuilding.

Primary metals orders rose $500 million, or 5.9 pct, during the month to $8.7 billion. Orders for nonelectrical machinery posted a $300 million rise to $17.1 billion in March, while orders for electrical machinery fell $800 million, or 4.6 pct, to $16.3 billion. Much of the loss in that category was due to a decline in orders for communication equipment, Commerce officials said.

In addition, they reported that shipments of durable goods increased 1.2 pct to $104.9 billion in March. Meanwhile, factory inventories of durable goods slipped 0.4 pct to $207.8 billion. All industry segments registered declines except motor vehicles and parts, the department noted. That category posted a 1.6 pct rise in inventories in March.

| Billions of Dollars, Seasonally adjusted Monthly Total, unless otherwise noted Source: U.S. Dept of Commerce | | Latest Month or Qtr. | Previous Month or Qtr. | Same Period Year Ago |
|---|---|---|---|---|
| **CAPITAL EXPENDITURES** (Annual Rates) | | | | |
| U.S. Industry, Total | 2nd Q* | $393.4 | $386.8 | $375.9 |
| Manufacturing, Total | 2nd Q* | 145.2 | 141.2 | 141.7 |
| Manufacturing, Durable Goods | 2nd Q* | 72.4 | 67.9 | 68.3 |
| Mining Industry | 2nd Q* | 10.6 | 10.4 | 11.2 |
| **KEY INDICATORS, Durable Goods Manufacturing** | | | | |
| New Orders | March | 105.8 | 101.9 | 100.9 |
| Shipments | March | 104.9 | 103.6 | 97.7 |
| Inventories | March | 207.8 | 208.6 | 212.7 |
| Unfilled Orders | March | 358.2 | 357.3 | 369.1 |
| **NEW ORDERS, METALWORKING** | | | | |
| **Capital Goods Producers, Nondefense Industries** | March | 27.3 | 26.9 | 26.6 |
| **Capital Goods Producers, Defense Industries** | March | 9.7 | 7.0 | 12.2 |
| **Primary Metals, Total** | March | 8.7 | 8.2 | 8.3 |
| Steel (SIC 331) | March | 3.7 | 3.4 | 3.7 |
| Iron & Steel Castings (SIC 332) | March | 7.2 | 7.6 | 8.7 |
| Nonferrous Metals | March | 4.3 | 4.1 | 3.8 |
| **Nonelectrical Mach.-Equip. Industries, Total** | March | 17.1 | 16.8 | 16.1 |
| Engines & Turbines | March | 1.5 | 1.1 | 1.2 |
| Construction, Mining & Mat. Hdlg. Equip | March | 2.2 | 2.1 | 2.1 |
| Metalworking Machinery | March | 0.8 | 0.7 | 0.7 |
| Machine Tools, Total ($Mill.)** | March | 165.2 | 152.9 | 214.6 |
| Machine Tools, Metalcutting** | March | 124.5 | 103.7 | 159.9 |
| Machine Tools, Metalforming** | March | 40.7 | 49.2 | 54.7 |
| **Electrical Mach. & Equip. Industries, Total** | March | 16.3 | 17.1 | 16.9 |
| Elec. Transmission & Ind. Equip. | March | 2.2 | 2.3 | 2.1 |
| Household Appliances | March | 1.6 | 1.6 | 1.3 |
| Communication Equipment | March | 4.2 | 4.9 | 6.0 |
| **Transportation Equipment, Total** | March | 30.3 | 27.3 | 29.3 |
| Motor Vehicles & Parts (Shipments) | March | 17.5 | 18.2 | 15.1 |
| Aircraft, Missiles & Parts | March | 9.9 | 7.8 | 9.9 |
| Shipbuilding & Military Tanks | March | 1.7 | 0.4 | 3.2 |
| **Fabricated Metal Products, Total** | March | 11.4 | 11.2 | 10.7 |
| **Instruments, Total** | March | 5.2 | 5.1 | 4.9 |

*Est. – Commerce Dept; **Source: NMTBA

# 1ST QUARTER EARNINGS
## STEEL GETS A TAX CHECK

**Most of the major steel producers posted profits in the first quarter, but that was no great achievement. Much of the money came from a government refund for unused investment credits.**

The steel industry didn't turn any corners in the first quarter of 1987.

Most mills showed gains over the first quarter of 1986, but that was no great achievement. All the six largest mills lost money in the 1986 winter quarter.

With steel prices up and with volume better than expected, it might have been thought the industry's cost cutting efforts would finally show some positive results. That didn't happen. Some of the profit margins were impressive until you discovered the companies got a quiet helping hand from the government.

The $62 million profit of Inland Steel Co. came to 7.4 pct of first quarter sales. Armco earned $52 million or 7.2 pct of sales. For Inland, $50 million of the profit came from a refund for unused investment credits. Armco got nearly $42 million from the same source.

The unique Federal handout, which has received amazingly little attention, was a one-time sop to an industry that will be hurt directly and indirectly by the repeal of the investment tax credit.

USX Corp. reported a loss of $97 million for the first quarter. This was rated a good showing considering the fact that there was no steel production in January and only limited shipments after that.

"We expect steel to have a modest operating income in the second quarter," said David M. Roderick, chairman of USX. In the first quarter and since then, USX made good on its pledge to re-enter the market in an orderly manner and avoid disruptive pricing. The restraint of USX is credited with giving the industry a shot at profitable pricing.

The full price test will probably come in the summer. "In the last half of 1987," said Mr. Roderick, "we expect to achieve our pre-strike market share...." Hopefully, the market spurt now underway will continue in the third quarter, and demand will be strong enough to support proposed price increases along with an expansion of the USX share of the business.

Bethlehem Steel Corp. reported a profit of $25.6 million for the first quarter. With the investment credit refund providing over $32 million, the reported profit was disappointing to analysts. Bethlehem's steel segment had an operating profit of $49 million. That compared with an operating loss of $36 million in the first quarter of 1986.

During the quarter, Bethlehem maintained a cash position of more than $460 million. That was up from only $161 million a year ago.

Bethlehem Chairman Walter F. Williams had only gloomy words about the life expectancy of steel. "For the foreseeable future," said Mr. Williams, "we believe the industry will remain mired in a vicious circle of too much steel supply chasing too little demand with high exit costs preventing the needed downsizing." He renewed the industry's pitch for government funding of steel plant closings.

National Steel Corp. reported a loss of $5.6 million in the first quarter. National's showing would have been even worse if the company hadn't received nearly $18 million in investment credit refunds.

National attributed its loss to a blast furnace reline at Granite City and to breakdowns of both hot and cold mills at Great Lakes. Other companies have had production problems. Inland Steel had blast furnace and basic

## STEEL: THE CHECK WAS IN THE MAIL

### FIRST QUARTER PROFIT REPORT—1987 (In Millions of Dollars)

| | | EARNINGS | | | SALES | | |
|---|---|---|---|---|---|---|---|
| | E/S | 1st Q 1987 | 1st Q 1986 | Pct Change | 1st Q 1987 | 1st Q 1986 | Pct Change |
| USX | – | (97.0) | (249.0) | – | $2,790.0 | $4,651.0 | –40.0 |
| LTV | 6.8 | 129.6 | (109.1) | – | 1,910.0 | 1,800.0 | +6.1 |
| BETHLEHEM | 2.3 | 26.6 | (91.8) | – | 1,130.7 | 1,168.6 | –3.2 |
| INLAND | 7.4 | 62.5 | (22.0) | – | 842.6 | 754.1 | +12.0 |
| ARMCO | 7.2 | 52.5 | (62.9) | – | 727.8 | 681.4 | +6.8 |
| NATIONAL | – | (5.6) | (39.4) | – | 537.4 | 472.5 | +14.0 |
| TOTAL | 2.1 | (167.6) | (574.2) | – | 7,938.5 | 9,527.6 | –17.0 |
| CYCLOPS | 1.9 | 7.3 | 6.1 | +20.0 | 378.3 | 337.5 | +12.0 |
| WEIRTON | 8.1 | 27.9 | 8.9 | +234.0 | 346.2 | 287.0 | +21.0 |
| NUCOR | 5.8 | 10.8 | 12.0 | –10.0 | 186.8 | 189.0 | –1.1 |
| CARPENTER | – | (0.8) | 4.1 | – | 125.4 | 141.7 | –12.0 |
| LUKENS | 2.6 | 2.9 | 0.5 | +532.0 | 110.6 | 92.9 | +19.0 |
| FLORIDA | 4.2 | 3.7 | 1.4 | +163.0 | 88.6 | 71.8 | +23.0 |
| QUANEX | – | (1.6) | (5.1) | – | 76.5 | 82.1 | –6.8 |
| ACME | 4.0 | 2.9 | 2.8 | +5.4 | 74.4 | 60.3 | +23.0 |
| LACLEDE | 1.5 | 0.9 | 0.3 | +262.0 | 64.8 | 57.8 | +12.0 |
| BIRMINGHAM | 4.0 | 2.4 | 2.0 | +21.0 | 59.1 | 39.6 | +49.0 |
| CF&I | – | (5.0) | (2.4) | – | 55.4 | 50.9 | +9.0 |
| EASTMET | – | (1.0) | (1.7) | – | 26.8 | 38.2 | –30.0 |

oxygen outages. The production snags help explain why steel supply has remained tight and steel prices have stayed firm.

LTV Corp. reported an operating income of $101 million for its steel business. That was up from a loss of $60 million in the first quarter of 1986. Reflecting its bankrupt state, LTV's interest charges fell from $76 million in the first quarter of 1986 to $4.7 million in the 1987 quarter.

Weirton Steel Corp. continued as the most profitable of the large mills in the first quarter. Weirton's profit of nearly $28 million came to more than 8 pct of sales. There was no mention of any investment credit refund in the company's statement.

"The upswing in volume combined with firmer selling products largely accounted for the rebound in earnings," said Robert L. Loughhead, chairman of Weirton. Mr. Loughhead reported good orders through the first half.

Like many steel executives, he was bearish about the second half. "Our expectation is that domestic demand will suffer a gradual downward trend over the long term," he said.

Carpenter Technology Corp. had a small loss in the first quarter. Carpenter would have been profitable had it not been for a special charge of $9.4 million for early retirements and for separations. The charge indicated how costly it is to make cutbacks. Only 340 hourly employees were given early retirement at Carpenter.

Lukens, Inc., had a profit of more than $2.9 million in the first quarter. This was of special interest because Lukens makes steel plates and the plate business has been depressed for the last five years.

The Lukens showing could mean heavy construction is finally making an appearance. Unlike most steel companies, Lukens believes there has been a basic market improvement. "We are currently experiencing improved business across a number of our markets," said W. R. Wilson, president of Lukens.

"Because of the weaker dollar, some plate steel customers who also experienced strong import competition are recapturing business that previously would have gone offshore," said Mr. Wilson. "Also, passage of the Surface Transportation Assistance Act should strengthen an already healthy bridge construction market."

Both Florida Steel Corp. and Nucor Corp. continued to make money. Nucor's earnings were down from 1986 but were still more than respectable. Florida, meanwhile, posted $3.7 million in profits during the first quarter of this year compared with $1.4 million during the same period last year.

Acme Steel Co., seems to be faring well as an independent company. Acme had a 4 pct return on sales in the first quarter.

*By George J. McManus*

## PRICE & PRODUCTION DATA

(Effective May 4, 1987)

Steel production by districts, thousands of tons (000 omitted)

| | Last Week | Two Weeks Ago | Month Ago | Year Ago |
|---|---|---|---|---|
| Northeast Coast | 245 | 221 | 196 | 192 |
| Pittsburgh | 192 | 184 | 194 | 244 |
| Youngstown | 122 | 116 | 116 | 107 |
| Lake Erie | 137 | 128 | 121 | 125 |
| Detroit | 155 | 157 | 154 | 127 |
| Chicago | 493 | 479 | 453 | 496 |
| Midwest | 207 | 197 | 194 | 172 |
| Southern | 192 | 185 | 170 | 199 |
| Western | 56 | 54 | 52 | 84 |
| U.S. Production | 1,799 | 1,721 | 1,650 | 1,746 |

Source: American Iron & Steel Institute

### Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)..... gross-ton 58.0*
Pellets (per iron unit natural)..... gross-ton 59.4**
Pellets (per iron unit natural)..... gross-ton 72.45-86.9***
Mesabi, regular-unscreened..... gross-ton 32.53
Mesabi, non-bessemer ..... gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82; Hanna Mining 2/26/82.

## STEEL PRODUCTION, COMPOSITE PRICES

(Effective May 4, 1987)

| U.S. Steel Production | Last Week | Two Weeks Ago | To Date 1986 | To Date 1985 |
|---|---|---|---|---|
| Net tons, in thousands | 1,799 | 1,721 | 27,507 | 30,959 |
| Capability Utilization Rate | 83.6 | 80.0 | 73.3 | 71.4 |

| Composite Prices | This Week | Week Ago | Month Ago | Year Ago |
|---|---|---|---|---|
| Finished Steel Base* (¢/lb.—eff. 1/4/87) | 25.236 | 25.236 | 25.236 | 24.607 |
| Pig Iron** (Net ton= 2000 lbs.) | $213.00 | $213.00 | $213.00 | $213.00 |
| Scrap No. 1 hvy.*** (Gross ton=2240 lbs.) | $ 73.50 | $ 73.17 | $ 73.17 | $ 71.50 |
| No. 2 bundles | $ 50.83 | $ 49.83 | $ 49.83 | $ 52.17 |

| Scrap Comparison (Gross Ton) | | | | |
|---|---|---|---|---|
| No. 1 steel, Pittsburgh | $ 79.50 | $ 76.50 | $ 76.50 | $ 70.50 |
| No. 1 steel, Philadelphia | 68.50 | 70.50 | 70.50 | 71.50 |
| No. 1 steel, Chicago | 72.50 | 72.50 | 72.50 | 72.50 |
| No. 1 bundles, Detroit | 78.50 | 66.50 | 66.50 | 57.50 |
| Low Phos., Youngstown | 79.50 | 75.50 | 75.50 | 70.50 |
| No. 1 mach'y cast., Pgh | 81.50 | 74.50 | 74.50 | 73.50 |
| No. 1 mach'y cast., Phila | 93.50 | 93.50 | 93.50 | 93.50 |
| No. 1 mach'y cast., Chi | 93.50 | 93.50 | 93.50 | 107.50 |

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

## NONFERROUS PRICES

(Effective May 4, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

### Primary Metal Prices

| (cents per lb.) | current price | last price | date of change |
|---|---|---|---|
| Aluminum (LME) | 61.00 | 61.00 | 5/1/87 |
| Copper (C) | 66.50 | 67.00 | 4/27/87 |
| Lead | 31.00 | 28.00 | 4/27/87 |
| Magnesium Ingot | 153.00 | 148.00 | 12/9/85 |
| Nickel (LME) | 187.00 | 179.00 | 5/1/87 |
| Zinc | 47.00 | 44.50 | 10/6/86 |

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas ..... $2.00
Beryllium-aluminum 5% Be, per lb. contained Be ..... $248.00
Beryllium-copper, per lb. cont. Be ..... $152.00
Beryllium 97% powder 200 ..... $196.00
Cadmium, ton lots ..... $1.50
Calcium, ton lots, crown ..... $3.92
Chromium, 99.5% electro ..... $4.62
Cobalt, 99%, cathode ..... $12.50
Gold, per troy oz. ..... $456.75
Indium, per troy oz. ..... $4.70
Iridium, per troy oz. ..... $405.00
Magnesium sticks, 10,000 lbs. ..... $2.12
Mercury, per 76-lb., f.o.b. N.Y. ..... $285.00-305.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can ..... $3.45
Palladium, per troy oz. ..... $143.00
Platinum, per troy oz. ..... $609.00
Rhodium, per troy oz. ..... $1,245.00
Silver ingots, per troy oz. ..... $8.08
Titanium sponge, melt grade ..... $3.40-3.55
Tungsten powder, hyd red. ..... $9.53-9.85
Vanadium ..... $6.00
Zirconium sponge ..... $11.20-17.00
*(Per lb. unless otherwise noted)*

### Straits Tin Price

*(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)*

April 27—301.00
April 28—301.00
April 29—301.00
April 30—300.00
May 1—301.00

### Scrap Prices
### Brass Mill Scrap

*(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)*

| | Solids | Turnings |
|---|---|---|
| Copper | 56½ | 51½ |
| Yellow brass | 50 | 49 |
| Red brass | 51 | 47 |
| Comm. bronze | 52½ | 47½ |
| Mang. bronze | 39½ | 38½ |
| Free cutting rod ends | 49 | 48 |

### Custom Smelters Scrap

*(Cents per lb., carload lots, del. refinery)*

| | |
|---|---|
| No. 1 copper wire | 56 |
| No. 2 copper wire | 47 |
| Light copper | 41 |

### Ingot Makers Scrap

*(Cents per lb., carload lots, del. refinery)*

| | |
|---|---|
| No. 1 copper wire | 49 |
| No. 2 copper wire | 41 |
| Light copper | 34 |
| No. 1 composition | 42 |
| No. 1 comp. turnings | 42 |
| Hvy. yellow brass solids | 30 |
| Hvy. yellow brass turnings | 24 |
| Radiators | 28 |

### Dealers' Scrap

*(Dealers' buying price f.o.b. New York in cents per pound)*

#### Aluminum

| | | |
|---|---|---|
| Aluminum | | |
| New mixed clips | 39 | — 40 |
| Old sheet | 33 | — 34 |
| Old cast | 33 | — 34 |
| Clean dry borings | 34 | — 35 |

#### Aluminum

| | | |
|---|---|---|
| Segregated clippings | 34 | — 35 |
| Mixed I.C. clips | 33 | — 34 |
| Old sheets and cast | 27 | — 28 |
| Borings and turnings | 23 | — 24 |
| Duraluminum clippings | 27 | — 28 |

#### Copper and Brass

| | | |
|---|---|---|
| No. 1 copper wire | 45 | — 48 |
| No. 2 copper wire | 36 | — 37 |
| Light copper | 33 | — 34 |
| Radiators | 23 | — 24 |
| No. 1 composition | 37 | — 38 |
| No. 1 composition turnings | 35 | — 36 |
| Cocks and faucets | 31 | — 32 |
| Clean heavy yellow brass | 27 | — 29 |
| Brass pipe | 27 | — 28 |
| New soft brass clippings | 40 | — 41 |

#### Lead

| | | |
|---|---|---|
| Heavy soft lead | 10 | — 11 |
| Whole batteries | 1 | — 2 |
| Type metal | 19 | — 20 |
| Electrotype | 13 | — 14 |

#### Nickel

| | | |
|---|---|---|
| Nickel solids | 110 | —120 |
| Nickel rod ends | 110 | —120 |
| Nickel sheets, clips | 110 | —120 |
| Nickel turnings | 26 | — 36 |

#### Zinc

| | | |
|---|---|---|
| New zinc clippings | 14 | — 15 |
| Old diecast zinc | 10 | — 11 |

## EFFECTIVE MAY 4, 1987

(Effective May 4, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

# Ferrous Scrap Prices

### Pittsburgh

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 79.00 to | $ 80.00 |
| No. 2 hvy. melting | 69.00 to | 70.00 |
| No. 1 dealer bundles | 103.00 to | 104.00 |
| No. 1 factory bundles (auto) | 107.00 to | 108.00 |
| No. 2 bundles | 48.00 to | 49.00 |
| No. 1 busheling | 98.00 to | 99.00 |
| Machine shop turnings | 10.00 to | 11.00 |
| Shoveling turnings | 46.00 to | 47.00 |
| Cast iron borings | 43.00 to | 44.00 |
| Low phos. punchings plate | 108.00 to | 109.00 |
| Heavy turnings | 69.00 to | 70.00 |
| No. 1 RR hvy. melting | 90.00 to | 91.00 |
| Rails, 2 ft. and under | 102.00 to | 103.00 |
| Scrap rails, random lgth | 86.00 to | 87.00 |
| RR specialties | 100.00 to | 101.00 |
| No. 1 machinery cast | 81.00 to | 82.00 |
| Cupola cast | 71.00 to | 72.00 |
| Heavy breakable cast | 30.00 to | 31.00 |
| Stainless | | |
| 18-8 bundles and solids | 500.00 to | 510.00 |
| 18-8 turnings | 400.00 to | 410.00 |

### Chicago

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 72.00 to | $ 73.00 |
| No. 2 hvy. melting | 68.00 to | 69.00 |
| No. 1 dealer bundles | 94.00 to | 95.00 |
| No. 1 factory bundles (auto) | 99.00 to | 100.00 |
| No. 2 dealer bundles | 60.00 to | 61.00 |
| No. 1 busheling | 84.00 to | 85.00 |
| Shredder scrap | 83.00 to | 84.00 |
| Machine shop turnings | 22.00 to | 23.00 |
| Mixed borings and turnings | 15.00 to | 16.00 |
| Shoveling turnings | 25.00 to | 26.00 |
| Cast iron borings | 40.00 to | 41.00 |
| Low phos. forge crop | 92.00 to | 93.00 |
| Low phos. punchings plate 1/4 in. and heavier | 107.00 to | 108.00 |
| Low phos. 2 ft. and under | 100.00 to | 101.00 |
| No. 1 RR hvy. melting | 76.00 to | 77.00 |
| Scrap rails random lgth | 81.00 to | 82.00 |
| Reroller rails | 101.00 to | 102.00 |
| Rails, 2 ft. and under | 93.00 to | 94.00 |
| RR couplers and knuckles | 73.00 to | 74.00 |
| RR car axles | 106.00 to | 107.00 |
| No. 1 machinery cast | 93.00 to | 94.00 |
| Cupola cast | 83.00 to | 84.00 |
| Stove plate | 96.00 to | 97.00 |
| Steel car wheels | 93.00 to | 94.00 |
| Stainless | | |
| 18-8 bundles and solids | 470.00 to | 480.00 |
| 18-8 turnings | 350.00 to | 360.00 |
| 430 bundles and solids | 130.00 to | 140.00 |
| 430 turnings | 85.00 to | 95.00 |

### Philadelphia

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 67.00 to | $ 70.00 |
| No. 2 hvy. melting | 59.00 to | 62.00 |
| No. 1 dealer bundles | 91.00 to | 94.00 |
| No. 2 dealer bundles | 42.00 to | 45.00 |
| No. 1 busheling | 83.00 to | 86.00 |
| Shredder scrap | 84.00 to | 87.00 |
| Machine shop turnings | 24.00 to | 27.00 |
| Mixed borings and turnings | 24.00 to | 27.00 |
| Shoveling turnings | 39.00 to | 42.00 |
| Low phos. 5 ft and under | 78.00 to | 81.00 |
| Low phos. 2 ft. punchings | 96.00 to | 99.00 |
| Electric furnace bundles | 93.00 to | 96.00 |
| RR specialties | 80.00 to | 83.00 |
| Rails, 2 ft. and under | 96.00 to | 99.00 |
| Cupola cast | 78.00 to | 81.00 |
| Heavy breakable cast | 52.00 to | 55.00 |
| No. 1 machinery cast | 92.00 to | 95.00 |

### Detroit

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 51.00 to | $ 52.00 |
| No. 2 hvy. melting | 49.00 to | 50.00 |
| No. 1 dealer bundles | 78.00 to | 79.00 |
| No. 2 bundles | 36.00 to | 37.00 |
| No. 1 busheling | 76.00 to | 77.00 |
| Drop forge flashings | 45.00 to | 46.00 |
| Machine shop turnings | 18.00 to | 19.00 |
| Mixed borings and turnings | 7.00 to | 8.00 |
| Shoveling turnings | 18.00 to | 19.00 |
| Cast iron borings | 20.00 to | 21.00 |
| Heavy breakable cast | 32.00 to | 33.00 |
| Mixed cupola cast | 47.00 to | 48.00 |
| Automobile cast | 71.00 to | 72.00 |
| Stainless | | |
| 18-8 bundles and solids | 470.00 to | 480.00 |
| 18-8 turnings | 290.00 to | 300.00 |
| 430 bundles and solids | 115.00 to | 125.00 |

### Youngstown

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 63.00 to | $ 64.00 |
| No. 2 hvy. melting | 62.00 to | 63.00 |
| No. 1 dealer bundles | 86.00 to | 87.00 |
| No. 2 dealer bundles | 36.00 to | 37.00 |
| Machine shop turnings | 16.00 to | 17.00 |
| Shoveling turnings | 16.00 to | 17.00 |
| Low phos. plate | 79.00 to | 80.00 |
| Electric furnace bundles | 69.00 to | 70.00 |
| Galvanized bundles | 66.00 to | 67.00 |

### Cleveland

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 59.00 to | $ 60.00 |
| No. 2 hvy. melting | 56.00 to | 57.00 |
| No. 1 dealer bundles | 83.00 to | 84.00 |
| No. 1 factory bundles | 85.00 to | 86.00 |
| No. 2 bundles | 35.00 to | 36.00 |
| No. 1 busheling | 77.00 to | 78.00 |
| Machine shop turnings | 15.00 to | 16.00 |
| Shoveling turnings | 19.00 to | 20.00 |
| Cast iron borings | 20.00 to | 21.00 |
| Cut structural & plates, 5 ft. and under | 70.00 to | 71.00 |
| Cut structural & plates, 2 ft. and under | 93.00 to | 94.00 |
| Low phos. punchings plate | 93.00 to | 94.00 |
| Foundry steel, 2 ft. & under | 57.00 to | 58.00 |
| No. 1 RR hvy. melting | 65.00 to | 66.00 |
| Rails, 2 ft. and under | 97.00 to | 98.00 |
| Rails, 18 in. and under | 99.00 to | 100.00 |
| No. 1 machinery cast | 84.00 to | 85.00 |
| Mixed cast | 51.00 to | 52.00 |
| Stainless | | |
| 18-8 bundles | 475.00 to | 485.00 |
| 18-8 turnings | 295.00 to | 305.00 |
| 430 bundles | 120.00 to | 130.00 |

### Buffalo

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 56.00 to | $ 57.00 |
| No. 2 hvy. melting | 46.00 to | 47.00 |
| No. 1 busheling | 79.00 to | 80.00 |
| No. 1 dealer bundles | 80.00 to | 81.00 |
| No. 2 bundles | 29.00 to | 30.00 |
| Machine shop turnings | 13.00 to | 14.00 |
| Mixed borings and turnings | 13.00 to | 14.00 |
| Shoveling turnings | 19.00 to | 20.00 |
| Cast iron borings | 27.00 to | 28.00 |
| Low phos. plate | 79.00 to | 80.00 |
| Structural and plate, 2 ft. and under | 80.00 to | 81.00 |
| Rails, 2 ft. and under | 81.00 to | 82.00 |
| Scrap rails, random lgth | 65.00 to | 66.00 |
| No. 1 machinery cast | 77.00 to | 78.00 |
| No. 1 cupola cast | 71.00 to | 72.00 |

### St. Louis

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 69.00 to | $ 70.00 |
| No. 2 hvy. melting | 59.00 to | 60.00 |
| No. 1 busheling | 84.00 to | 85.00 |
| No. 1 dealer bundles | 88.00 to | 89.00 |
| No. 2 bundles | 57.00 to | 58.00 |
| Machine shop turnings | 17.00 to | 18.00 |
| Shoveling turnings | 21.00 to | 22.00 |
| Cast iron borings | 26.00 to | 27.00 |
| No. 1 RR hvy. melting | 80.00 to | 81.00 |
| Rails, random length | 79.00 to | 80.00 |
| Rails, 5 ft. and under | 89.00 to | 90.00 |
| RR specialties | 80.00 to | 81.00 |
| Cupola cast | 66.00 to | 67.00 |
| Heavy breakable cast | 40.00 to | 41.00 |
| Stove plate | 87.00 to | 88.00 |
| Steel car wheels | 87.00 to | 88.00 |
| Rerolling rails | 102.00 to | 103.00 |
| Unstripped motor blocks | 60.00 to | 61.00 |

### Birmingham

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 72.00 to | $ 73.00 |
| No. 2 hvy. melting | 67.00 to | 68.00 |
| No. 1 dealer bundles | 72.00 to | 73.00 |
| No. 2 bundles | 48.00 to | 49.00 |
| No. 1 busheling | 72.00 to | 73.00 |
| Shredder scrap | 88.00 to | 89.00 |
| Machine shop turnings | 28.00 to | 29.00 |
| Shoveling turnings | 37.00 to | 38.00 |
| Cast iron borings | 34.00 to | 35.00 |
| Electric furnace bundles | 68.00 to | 69.00 |
| Elec. furnace, 3 ft. & under | 74.00 to | 75.00 |
| Structural and plate, 2 ft. | 91.00 to | 92.00 |
| Structural and plate, 4 ft. | 86.00 to | 87.00 |
| No. 1 RR hvy. melting | 86.00 to | 87.00 |
| Scrap rails, random lgth | 77.00 to | 78.00 |
| Rails, 2 ft. and under | 94.00 to | 95.00 |
| Angles and splice bars | 86.00 to | 87.00 |
| No. 1 cupola cast | 82.00 to | 83.00 |
| Unstripped motor blocks | 74.00 to | 75.00 |

### Cincinnati

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 58.00 to | $ 59.00 |
| No. 2 hvy. melting | 52.00 to | 53.00 |
| No. 1 dealer bundles | 80.00 to | 81.00 |
| No. 2 bundles | 31.00 to | 32.00 |
| Machine shop turnings | 12.00 to | 13.00 |
| Shoveling turnings | 15.00 to | 16.00 |
| Cast iron borings | 24.00 to | 25.00 |
| Low phos. 18 in. and under | 84.00 to | 85.00 |
| Rails, random length | 68.00 to | 69.00 |
| Rails, 2 ft. and under | 88.00 to | 89.00 |
| No. 1 cupola cast | 68.00 to | 69.00 |
| Heavy breakable cast | 29.00 to | 30.00 |
| Drop broken cast | 73.00 to | 74.00 |

### New York

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 38.00 to | $ 40.00 |
| No. 2 hvy. melting | 31.00 to | 32.00 |
| No. 2 dealer bundles | 20.00 to | 22.00 |
| Mixed borings and turnings | 10.00 to | 11.00 |
| Machine shop turnings | 4.00 to | 6.00 |
| Shoveling turnings | 10.00 to | 12.00 |
| Clean cast, chem. borings | 35.00 to | 36.00 |
| No. 1 machinery cast | 79.00 to | 80.00 |
| Mixed yard cast | 50.00 to | 51.00 |
| Heavy breakable cast | 10.00 to | 12.00 |
| Stainless | | |
| 18-8 prepared solids | 395.00 to | 415.00 |
| 18-8 turnings | 310.00 to | 330.00 |
| 430 prepared solids | 100.00 to | 110.00 |
| 430 solids | 85.00 to | 95.00 |

### Boston

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 49.00 to | $ 51.00 |
| No. 2 hvy. melting | 39.00 to | 41.00 |
| No. 1 dealer bundles | 58.00 to | 60.00 |
| No. 2 bundles | 32.00 to | 34.00 |
| No. 1 busheling | 56.00 to | 58.00 |
| Shredder scrap | 59.00 to | 61.00 |
| Machine shop turnings | 12.00 to | 14.00 |
| Shoveling turnings | 18.00 to | 20.00 |
| No. 1 machinery cast | 72.00 to | 77.00 |
| Mixed cupola cast | 44.00 to | 46.00 |
| Heavy breakable cast | 8.00 to | 10.00 |

### San Francisco

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 40.00 to | $ 42.00 |
| No. 2 hvy. melting | 34.00 to | 36.00 |
| No. 1 dealer bundles | 31.00 to | 33.00 |
| No. 2 dealer bundles | 20.00 to | 21.00 |
| Machine shop turnings | 8.00 to | 9.00 |
| Cast iron borings | 8.00 to | 9.00 |
| No. 1 cupola cast | 80.00 to | 82.00 |

### Los Angeles

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 34.00 to | $ 36.00 |
| No. 2 hvy. melting | 28.00 to | 30.00 |
| No. 1 dealer bundles | 26.00 to | 28.00 |
| No. 2 dealer bundles | 16.00 to | 18.00 |
| Machine shop turnings | 7.00 to | 8.00 |
| Shoveling turnings | 8.00 to | 9.00 |
| Cast iron borings | 8.00 to | 9.00 |
| Elec. furnace, 1 ft. and under (foundry) | 67.00 to | 69.00 |
| No. 1 cupola cast | 72.00 to | 74.00 |

### Seattle

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 60.00 to | $ 62.00 |
| No. 2 hvy. melting | 51.00 to | 53.00 |
| No. 2 bundles | 35.00 to | 37.00 |
| No. 1 cupola cast | 89.00 to | 90.00 |
| Mixed yard cast | 80.00 to | 82.00 |

### Hamilton, Ont.

Brokers buying prices per gross ton on cars

| | |
|---|---|
| No. 1 hvy. melting | $ 76.00 |
| No. 2 hvy. melting, cut 2 ft. and under | 66.00 |
| No. 1 dealer bundles | 86.00 |
| No. 2 bundles | 58.00 |
| Mixed steel scrap | 51.00 |
| Bush. new fact. prep'd | 86.00 |
| Bush. new fact. unprep'd | 69.00 |
| Machine shop turnings | 30.00 |
| Short steel turnings | 30.00 |
| Mixed borings and turnings | 19.00 |
| Cast scrap | 90.00 |

### Houston

Brokers buying prices per gross ton on cars

| | | |
|---|---|---|
| No. 1 hvy. melting | $ 62.00 to | $ 63.00 |
| No. 2 hvy. melting | 52.00 to | 53.00 |
| No. 2 bundles | 33.00 to | 34.00 |
| Machine shop turnings | 13.00 to | 14.00 |
| Crushed turnings | 23.00 to | 24.00 |
| Shredder scrap | 73.00 to | 74.00 |
| Cut structural plate, 2 ft. and under | 83.00 to | 84.00 |
| Cut structural plate, 5 ft. and under | 70.00 to | 71.00 |
| Unstripped motor blocks | 52.00 to | 53.00 |
| Cupola cast | 83.00 to | 84.00 |